

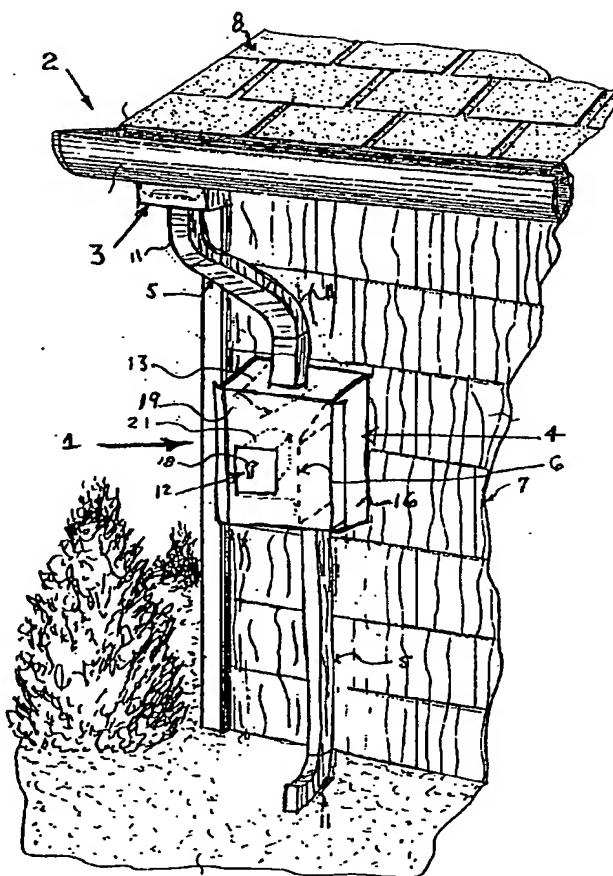
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(54) **GOUTTIERE A SYSTEME INTEGRE FACILITANT LE  
NETTOYAGE**

(54) **EAVESTROUGH EASY-CLEAN SYSTEM**



(57) Dispositif à nettoyage facile 1 pour gouttières 2 de bords de toits 8 de bâtiments 7, comportant un élément à écoulement libre (3) reliant la gouttière (2) et le tuyau de descente (5) de manière à assurer une descente verticale le long d'un mur extérieur du bâtiment 7 et à conduire les eaux pluviales en les éloignant du toit 8, et un élément 4 servant à retenir les saletés et les débris 9 transportés par les eaux pluviales provenant de la gouttière 2 pour permettre aux eaux pluviales d'être évacuées librement par le tuyau de descente 5.

(57) An easy clean system 1 for a gutter 2 at the eaves of a roof 8 on a building 7 comprising a free flow unit (3) connected to a downpipe (5) in the gutter (2), so that the system 1 will extend vertically down along an exterior wall of the building 7 and carry rainwater away from the roof 8. A facility 4 within the system 1 is for separating any dirt and debris 9 that falls into the rainwater in the gutter 2, so that the rainwater will flow without obstruction out through the facility 4 and out the downpipe 5.

### **Abstract Of The Disclosure**

**An easy clean system 1 for a gutter 2 at the eaves of a roof 8 on a building 7 comprising a free flow unit (3) connected to a downpipe (5) in the gutter (2), so that the system 1 will extend vertically down along an exterior wall of the building 7 and carry rainwater away from the roof 8 . A facility 4 within the system 1 is for separating any dirt and debris 9 that falls into the rainwater in the gutter 2 , so that the rainwater will flow without obstruction out through the facility 4 and out the downpipe 5**

## **Easy Clean System For An Eavestrough**

### **Background of the invention**

#### **Field of the Invention**

The instant invention relates generally to drainage devices and more specifically it relates to an easy clean system for eavestrough. The Easy-Clean System for an eavestrough allows dirt and debris to flow without obstruction from an eavestrough into a downpipe, so that the water can exit freely therefrom.

### **Description of the Prior Art**

Numerous drainage devices have been provided in prior art that are adapted to carry off rainwater or sewage from one location to another. While these units may be suitable for the particular purpose to which they address, they would not be as suitable for the purposes of the present invention as heretofore described.

### **Summary of the Invention**

**A primary object of the present invention is to provide an easy clean system for an eavestrough that will overcome the shortcomings of the prior art devices.**

**Another object is to provide an easy clean system for an eavestrough that will allow dirt and debris to flow without obstruction from an eavestrough on a roof of a building into a down pipe, so that the water can exit freely therefrom.**

**An additional object is to provide an easy clean system for an eavestrough that will separate the dirt and debris from water by a basket and filter partition for removal from the down pipe, while access to the down pipe at ground level, will allow a person to clean out the dirt and debris that accumulates.**

A further object is to provide an easy clean system for an eavestrough that is simple and easy to use.

A still further objective is to provide an easy clean system for an eavestrough that is economical in cost to manufacture.

Further objects of the invention will appear as the description proceeds.

To the accomplishment of the above related objects, this invention may be embodied in the form illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that changes may be made in the specific construction illustrated and described within the scopes of the appended claims.

## **SPECIFICATIONS**

### **Detailed Description Of The Preferred Embodiments**

Turning now descriptively to the drawings in which similar reference characters denote similar elements throughout the several views, FIGURE 3 to 9 illustrate an easy clean system for an eavestrough.

**1- Easy Clean System**

**2- Eavestrough**

**3- Free Flow Unit**

**4- Separating Facility**

**5- Standard downpipe**

**6- Filter Partition for 4**

**7- Building**

**8- Roof**

**9- Dirt and debris**

**10- Rainstorm**



- 11- Downpipe elbow
- 12- Front Aperture of 21
- 13- Deflector In 4
- 14- Funnel in 4
- 15- Shelf in 4
- 16- Wall of 4
- 17- Wire mesh material

- 18- Handle of 12
- 19- Cover of 4
- 20- Side overflow
- 21- Basket
- 22- First passageway into 4
- 23- Second passageway into 4
- 24- Side wall of 21
- 25- Window in sidewall of 21
- 25 Underground drainage assembly

FIGURE 1 and 2 shows the prior art behind a standard eavestrough and downpipe. The eavestrough 2 is at the roof 8 eave on a building 7 clogged up with dirt and debris 9 during a rainstorm 10.

The easy clean System 1 consists of a free flow unit 3 connected to the separation unit 4 which extends vertically down along an exterior wall 7 and carry rainwater away from the roof 8.

The free-flow unit, an embodiment of which is shown in Figures 5 and 6, comprises a widening of the upper end of the downpipe elbow 11. The upper end of the free-flow unit is connected to the eavestrough 2. The widening of the juncture of the eavestrough and the downpipe substantially reduces blockages by leaves or like debris. Blockage reduction results from the fact that

(a) the debris collected in the free-flow unit will tend to rest below the level of the water in the eavestrough; and

(b) water passes vertically downward through debris more easily than horizontally through said debris in the eavestrough.

A facility 4 is for separating any dirt and debris 9 that fall into the rainwater in the eavestrough 2, so that the rainwater will flow without obstruction out through the downpipes.

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The separating facility 4 is a filter partition 6 extending vertically within the facility 4, to divide the facility 4 into two passageways 22 and 23.

When the rainwater with dirt and debris 9 enters the facility 4, the rainwater will enter into the second passageway 23 through the filter partition 6 and exit out from the bottom end to downpipe 5.

The dirt and debris 9 remain in the first passageway 22 and is collected in the basket 21. The filter partition is fabricated of wire mesh material 17; to keep the dirt and debris 9 trapped within the first passageway 22, while allowing rainwater to pass therethrough and into the second passageway 23.

The first passageway 22 in the facility 4 has a funnel 14 which crosses horizontally and allows dirt and debris 9 to end up in the basket 21, the first passageway 22 in the facility 4 has a deflector 13 which deflects the majority of rainwater into the second passageway 23.

A basket 21 fits in a removable manner into the front of the facility 4 and onto the shelf 15 and below the funnel 14 so as to collect dirt and debris 9. The basket 21 includes a front handle 18 to be gripped by a hand of a person. A side wall 24 of the basket 21 facing the filter partition 6 has a wire mesh window 25 to allow any rainwater entering the basket to exit through the wire mesh window 25.

The facility 4 has a side overflow outlet 20 in the first passageway 22 to allow rainwater to flow out should a build-up of dirt and debris 9 occur in order to alert that emptying is required.

An underwater drainage assembly 26, as best seen in FIGURE 9 can be affixed to a bottom end of the downpipe so that rainwater exiting therefrom can be deposited away from the building 7. The assembly consists of a perforated pipe placed in the ground and exits through a perforated removable cover.

It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

While certain novel features of this invention have been shown and described are pointed out in the annexed claims, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can, by applying current knowledge, readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention.

### **Brief Description Of The Drawing Figures**

Various other objects, features and attendant advantages of the present invention will become more fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views, and wherein;

**FIGURE 1** is a perspective view of the prior art, showing a standard eavestrough and leader on a building clogged up with dirt and debris during a rainstorm.

**FIGURE 2** is an enlarged perspective view of the prior art, showing the dirt and debris in the standard eavestrough and leader in greater detail.

**FIGURE 3 is a perspective view of a portion of a building with a first embodiment of the instant invention installed thereto and ready to use.**

**FIGURE 4 is an elevation view of the separation unit without the cover.**

**FIGURE 5 is a plan view of the free-flow unit.**

**FIGURE 6 is an elevation view of the free-flow unit.**

**FIGURE 7 is a plan view of the basket.**

**FIGURE 8 is a perspective view of the basket.**

**FIGURE 9 is a side elevation view of a portion of a building with a second embodiment of the instant invention installed thereto, and ready to use.**

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. An easy clean system for a gutter of the eaves of a roof on a building having an exterior wall comprising:
  - (a) a first downpipe connected to an aperture in said gutter, so that said downpipe extends vertically down along said exterior wall of said building and carries rainwater away from said roof;
  - (b) means within said first downpipe for separating any dirt and/or debris in said rainwater from said rainwater, said separating means comprising
    - (i) a separating facility having a top, a front and a bottom wherein the top of said separating facility has a first aperture which is sealingly engaged to said first downpipe, wherein the bottom of said separating facility has a second aperture which is sealingly engaged to a second vertical downpipe which extends downward along the exterior wall of said building and wherein said front of said separating facility has a third aperture capable of receiving a removable basket;
    - (ii) a deflector located towards the top of the separating facility vertically below said first aperture;
    - (iii) a generally vertical filter partition within said separating facility which divides said separating facility into a first and second passageway;
    - (iv) a funnel extending across said first passageway directly above said third aperture;
    - (v) a shelf extending across said first passageway directly below said third aperture;
    - (vi) a basket having a sidewall and a bottom which fits in a removable manner into said third aperture, onto said shelf and below said funnel; and
    - (vii) said second aperture being in fluid communication with said second passageway;

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such that when rainwater with dirt and/or debris enters the separating facility, the rainwater deflects off the deflector, passes through the vertical filter partition into said second passageway and out the bottom of said separating facility through said second aperture whereas said dirt and/or debris deflects off said deflector and then deflects off said filter partition through said funnel and into said basket.

2. An improved easy clean system for a gutter of the eaves of a roof on a building, said improvement comprising a downpipe having a flared upper end which is sealingly connected to an aperture in said gutter.
3. The easy clean system for a gutter according to claim 1 wherein said basket is provided with a first aperture in said sidewall and a second aperture in said bottom wherein said first and second apertures are fixed with filtration means.
4. The easy clean system for a gutter according to claim 3 wherein said filtration means is a wire mesh.
5. The easy clean system of claims 1, 3, or 4 wherein said separating facility includes an overflow outlet in said first passageway above said funnel.
6. The easy clean system for a gutter of the eaves of a roof on a building comprising:
  - (a) a first downpipe having a flared upper end connected to an aperture in said gutter so that said downpipe extends vertically down along said exterior wall of said building and carries rainwater away from said roof;
  - (b) means within said first downpipe for separating any dirt and/or debris in said rainwater from said rainwater, said separating means comprising
    - (i) a separating facility having a top, a front and a bottom wherein the top of said separating facility has a first aperture which is sealingly engaged to said first downpipe, wherein the bottom of said separating facility has a second aperture which is sealingly engaged to a second vertical downpipe

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which extends downward along the exterior wall of said building and wherein said front of said separating facility has a third aperture capable of receiving a removable basket;

(ii) a deflector located towards the top of the separating facility vertically below said first aperture;

(iii) a generally vertical filter partition within said separating facility which divides said separating facility into a first and second passageway;

(iv) a funnel extending across said first passageway directly above said third aperture;

(v) a shelf extending across said first passageway directly below said third aperture;

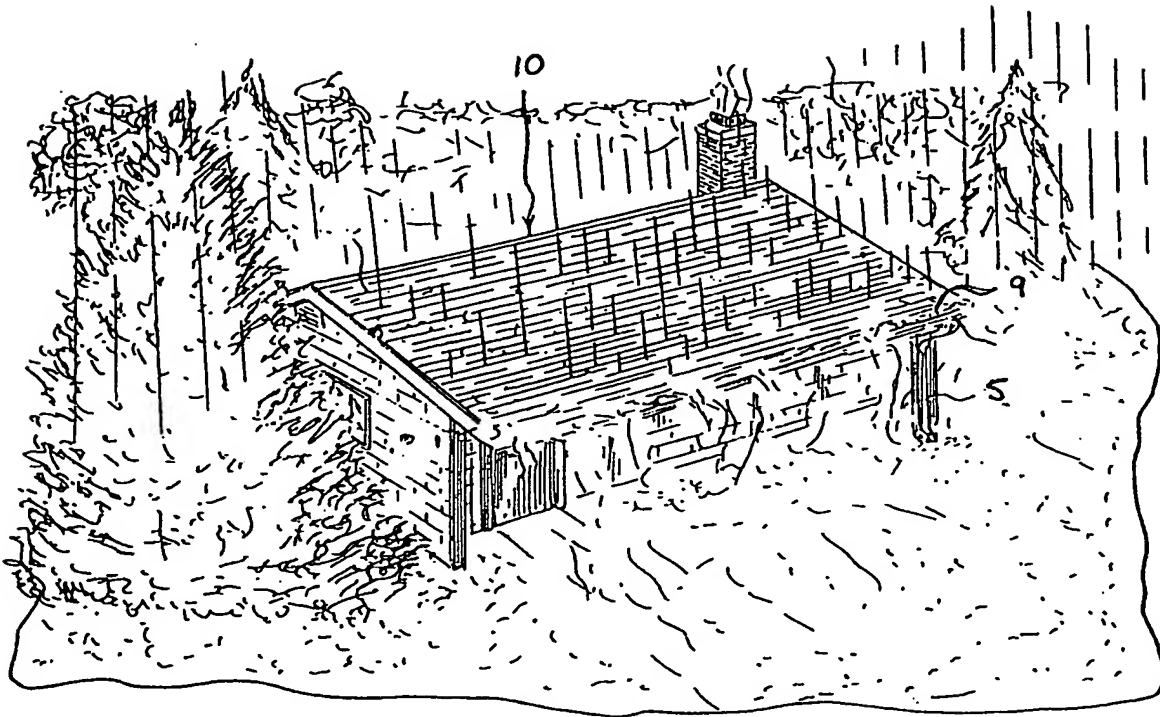
(vi) a basket having a sidewall and a bottom which fits in a removable manner into said third aperture, onto said shelf and below said funnel; and

(vii) said second aperture being in fluid communication with said second passageway;

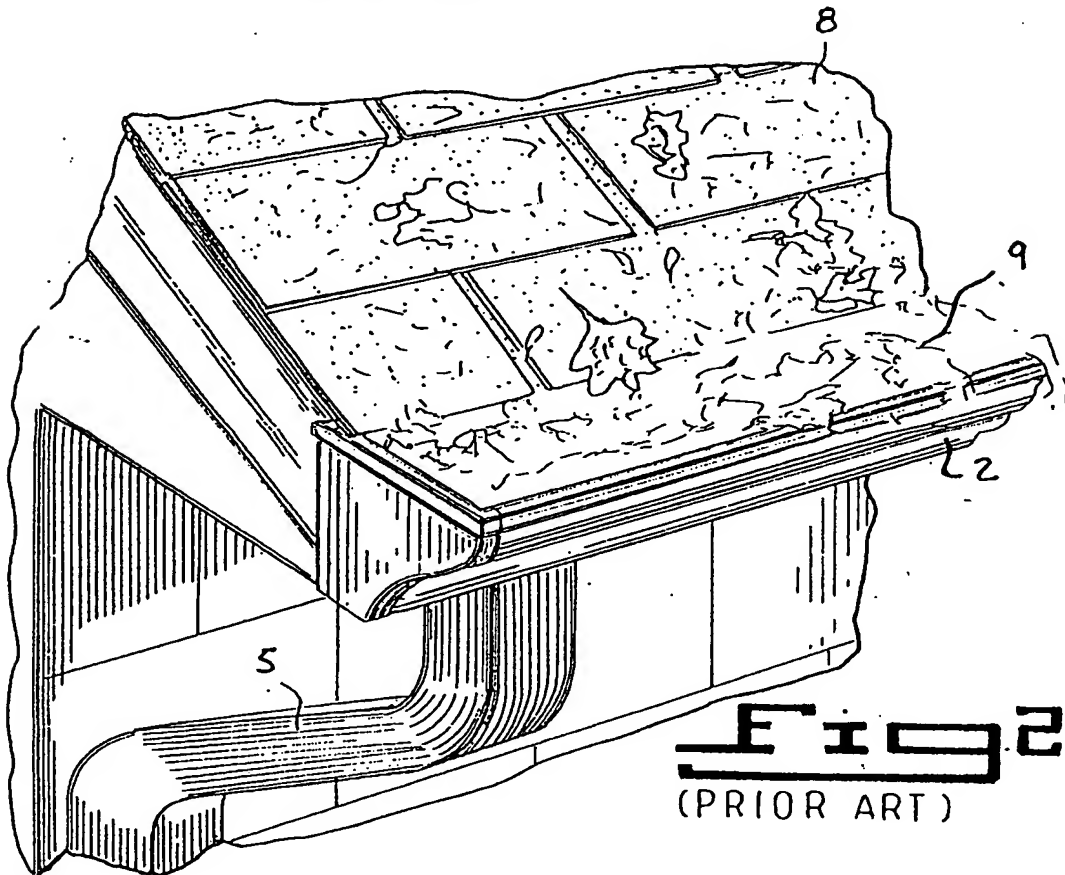
such that when rainwater with dirt and/or debris enters the separating facility, the rainwater deflects off the deflector, passes through the vertical filter partition into said second passageway and out the bottom of said separating facility through said second aperture whereas said dirt and/or debris deflects off said deflector and then deflects off said filter partition through said funnel and into said basket.

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**Fig. 1**  
(PRIOR ART)



**Fig. 2**  
(PRIOR ART)

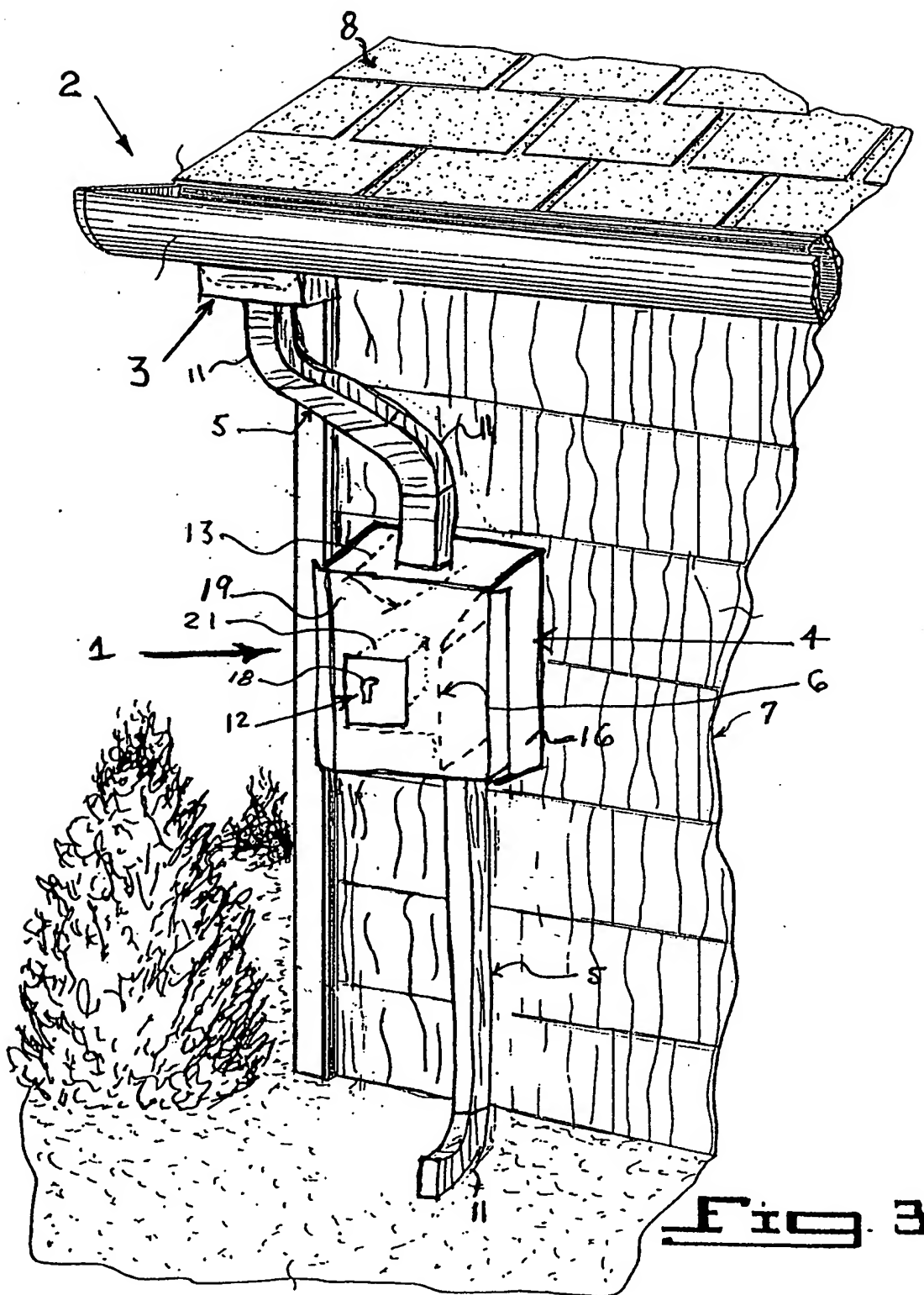


Fig. 3

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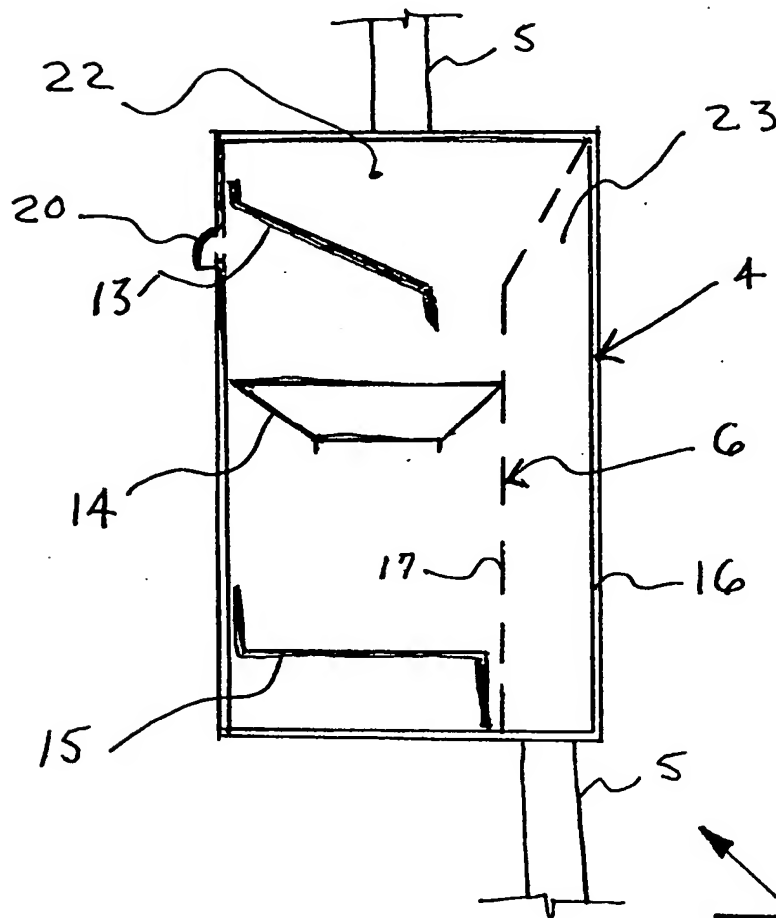


Fig. 4

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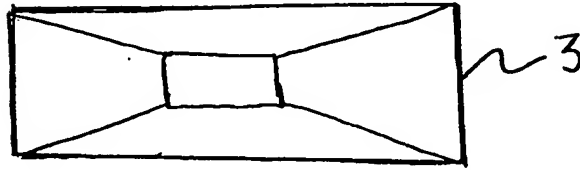


Fig. 5

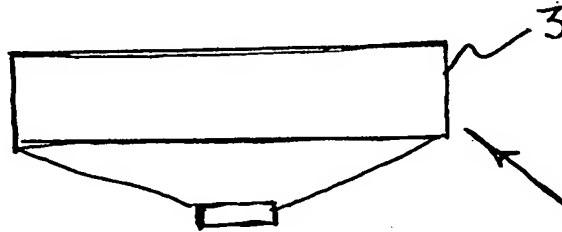


Fig. 6

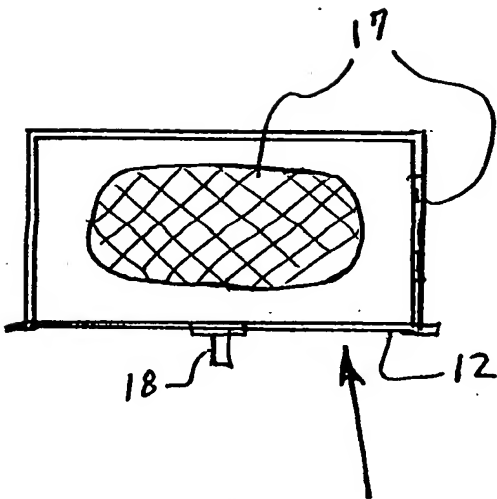


Fig. 7

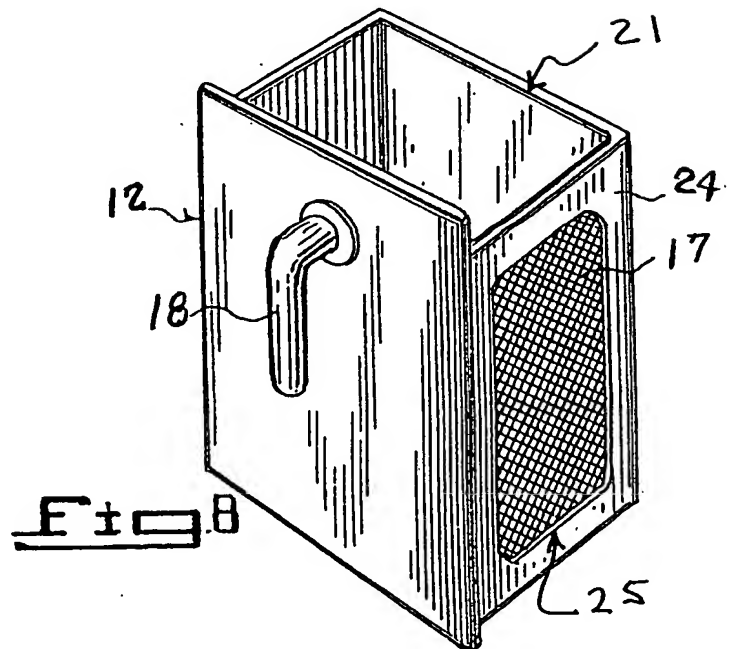


Fig. 8

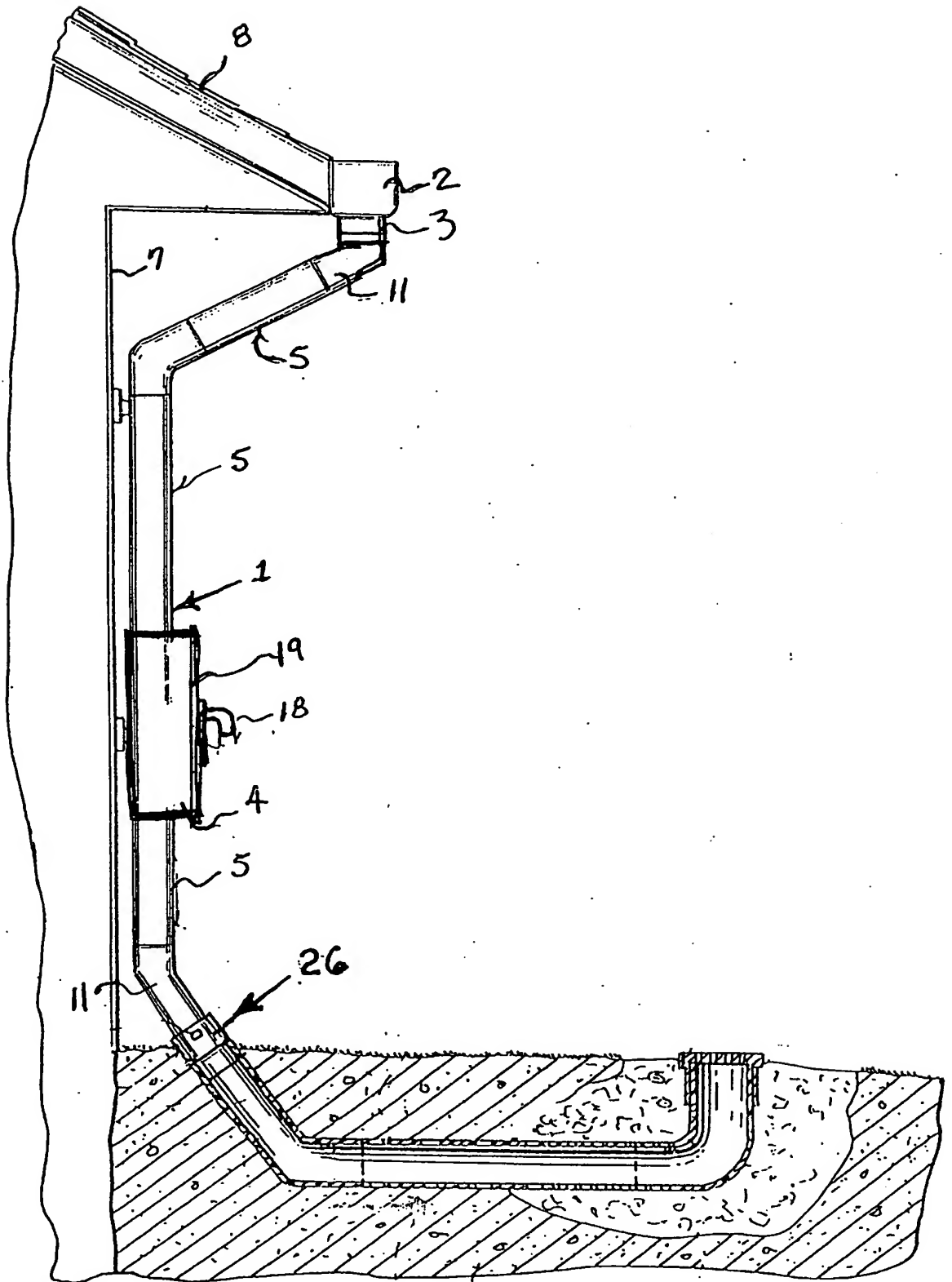


Fig. 9